

REMARKS

Reconsideration of the present application, as amended, is respectfully requested. Claims 1-3, 7, 9-12, 25, and 26 have been amended. Claims 27-33 have been added. Claims 6, 8, and 13-24 have been canceled without prejudice.

Examiner rejected claims 1-8 and 25-26 under 35 U.S.C. §102(e) as being anticipated by McArthur (US Patent No. 5,805,806), hereinafter McArthur. Examiner rejected claims 9-12 under 35 U.S.C. §103(a) as being unpatentable over McArthur as applied in claim 8, and in view of Terry et al. (US Patent No. 5,499,047), hereinafter Terry.

Election/Restriction under 35 U.S.C. § 121

Applicants confirm the election made telephonically on April 22, 2002, and elect Group I, claims 1-12 and 25-33. Therefore, claims 13-24 have been canceled without prejudice.

In the Drawings and in the Specification

Applicants have amended minor errors in the Specification. These changes do not add new matter.

Claims 1-8 and 25-26 Rejection under 35 U.S.C. § 102(e)

Examiner rejected claims 1-8 and 25-26 as being anticipated by McArthur.

Applicants respectfully submit that independent claim 1 is not anticipated by McArthur.

In col. 1, lines 56-59, McArthur teaches a method “to distribute and display locally generated video on any display device in a local area network (LAN).” In implementing this method, McArthur does not teach or render obvious the elements of claim 1 comprising:

- a plurality of universal client interface adapters, one universal client interface adapter in communication with at least one client and in communication with at least one other universal client interface adapter;
- at least one coaxial cable coupled between a pair of universal client interface adapters, the at least one coaxial cable having an operating frequency spectrum, the operating frequency spectrum having at least a first portion and a second portion, the second portion operating at a frequency greater than a signal cut-off frequency defined for conventional coaxial cable services; and
- at least one carrier modulated digital signal having a signal operating frequency that occupies the second portion of the operating frequency spectrum of the coaxial cable, the at least one carrier modulated digital signal transmitted in the coaxial cable coupled between the pair of universal client interface adapters.

McArthur teaches a unique interface for each client type rather than a universal client interface adapter as disclosed in claim 1. (McArthur, Fig. 4). For example, a TV client interface requires a high pass filter to filter out the low frequency (0-50 MHz) baseband digital signals. (McArthur, Fig. 9A). Conversely, the printer client interface requires a low pass filter (LPF) to filter out the high frequency (50-800 MHz) cable and video channels. (McArthur, Fig. 11). A universal client interface adapter, as claimed in the present invention, is not possible in McArthur because McArthur splits the frequency spectrum into two separate bands that bracket the existing cable channel frequencies.

Each client device transmits or receives in either the low frequency band, the high frequency band, or both of the frequency bands thus necessitating a specific interface for each type of client depending upon which signals are usable by the device.

Additionally, McArthur fails to teach a carrier modulated digital signal as disclosed in claim 1 of the presently claimed invention. McArthur teaches away from the use of a carrier modulated digital signal because the video signal is output from the PC in National Television System Committee (NTSC) format which is a color analog TV standard. (McArthur, col. 4, lines 52-55). McArthur overlays the local video channels in analog format onto the existing cable channels 118-125. (McArthur, Tables 1 and 2). As a result, a cable customer loses use of those cable channels. (McArthur, col. 4, lines 56-58). Thus, in the frequency range from 750-800 MHz, McArthur does not teach transmission of a carrier modulated digital signal. The baseband digital network in McArthur transmitted form 0-50 MHz is unmodulated as stated in col. 4, lines 19-22. Thus, in the frequency range from 0-50 MHz, McArthur also does not disclose transmission of a carrier modulated digital signal.

Claims 2-12 and 27 are dependent on independent claim 1. Applicants respectfully submit that these dependent claims are allowable for at least the reasons discussed above with respect to claim 1.

Similarly, claim 25 as amended recites "processing the digitized data within the first universal client interface adapter into a carrier modulated digital signal having a signal operating frequency that is greater than a signal cut-off frequency defined for conventional coaxial cable services." For the reasons discussed previously relative to claim 1, Applicants respectfully submit that McArthur does not teach "processing the

digitized data within the first universal client interface adapter into a carrier modulated digital signal having a signal operating frequency that is greater than a signal cut-off frequency defined for conventional coaxial cable services.” Thus, independent claim 25 is not anticipated by McArthur. Claim 26 is dependent on independent claim 25. Applicants respectfully submit that this dependent claim is allowable for at least the reasons discussed above with respect to claim 25.

Claim 28 recites “the universal client interface adapter processing the digital data signal into a carrier modulated digital signal with an operating frequency greater than a frequency spectrum of a normal coaxial cable system.” For the reasons discussed previously relative to claim 1, Applicants respectfully submit that McArthur does not teach “the universal client interface adapter processing the digital data signal into a carrier modulated digital signal with an operating frequency greater than a frequency spectrum of a normal coaxial cable system.” Thus, independent claim 28 is not anticipated by McArthur. Claims 29-33 are dependent on independent claim 28. Applicants respectfully submit that these dependent claims are allowable for at least the reasons discussed above with respect to claim 28.

Claims 9-12 Rejection under 35 U.S.C. § 103(a)

Examiner rejected claims 9-12 as being unpatentable over McArthur in view of Terry. As previously discussed, McArthur does not teach or render obvious a universal client interface adapter, transmission of a carrier modulated digital signal, or use of “a frequency greater than a signal cut-off frequency defined for conventional coaxial cable services.” The combination with Terry fails to cure these deficiencies. Terry teaches

"an improved cable television signal distribution network." (Terry, col. 2, lines 50-51).

Terry does not teach or render obvious the elements of claim 1 comprising:

- a plurality of universal client interface adapters, one universal client interface adapter in communication with at least one client and in communication with at least one other universal client interface adapter;
- at least one coaxial cable coupled between a pair of universal client interface adapters, the at least one coaxial cable having an operating frequency spectrum, the operating frequency spectrum having at least a first portion and a second portion, the second portion operating at a frequency greater than a signal cut-off frequency defined for conventional coaxial cable services; and
- at least one carrier modulated digital signal having a signal operating frequency that occupies the second portion of the operating frequency spectrum of the coaxial cable, the at least one carrier modulated digital signal transmitted in the coaxial cable coupled between the pair of universal client interface adapters.

Terry is directed to the distribution of cable television signals over long distances using optical fibers rather than coaxial cable. (Terry, col. 4, lines 65-66). The coaxial cable is only used from the customer tap to the house. (Terry, col. 5, lines 7-8). Terry is further directed to a drop unit that determines if a digital signal is addressed to the particular customer's house. (Terry, col. 5, lines 9-12). The drop unit does not interface with a client device. (Terry, Fig. 1). The set-top unit supplies signals to the TV, but is not disclosed in Terry. (Terry, Fig. 1, col. 5, lines 13-14). Also, only a TV is shown as a client device for receiving the cable TV signals through the set-top unit. Thus, Terry is not directed to multiple client devices connected to a LAN nor to the data sharing applications that utilize the LAN. Thus, Terry does not teach or render obvious a universal client interface adapter in communication with at least one client and in communication with at least one other universal client interface adapter.

Additionally, the combination of McArthur with Terry would not be suggested to a person of ordinary skill in the art. Each of the cited references is complete and functional in itself. McArthur is directed to the creation of a LAN for distributing locally generated video to client devices connected to the LAN and capable of sharing the video. Terry is directed to a long distance distribution network for cable television signals and is not directed to client devices at all. Thus, there is no motivation to combine the cited references.

Additionally, no universal client interface adapter in communication with at least one client and in communication with at least one other universal client interface adapter is disclosed in either reference. Thus, even if combined, the cited references fail to disclose or to render obvious the elements of independent claim 1. Claims 9-12 are dependent on independent claim 1. Applicants respectfully submit that these dependent claims are allowable for at least the reasons discussed above with respect to claim 1.

Similarly, claim 25 as amended recites "processing the digitized data within the first universal client interface adapter into a carrier modulated digital signal having a signal operating frequency that is greater than a signal cut-off frequency defined for conventional coaxial cable services." For the reasons discussed above with respect to claim 1, Applicants respectfully submit that McArthur and Terry do not make claim 25 obvious. Claim 26 is dependent on independent claim 25, and is not obvious over McArthur in view of Terry for at least the same reasons.

Claim 28 recites "the universal client interface adapter processing the digital data signal into a carrier modulated digital signal with an operating frequency greater than a

frequency spectrum of a normal coaxial cable system." For the reasons discussed above with respect to claim 1, Applicants respectfully submit that claim 28 is not obvious over McArthur in view of Terry. Claims 29-33 are dependent on independent claim 28, and are therefore allowable for at least the reasons discussed above with respect to claim 28.


Applicants respectfully submit that in view of the amendments and discussion set forth herein, the applicable rejections have been overcome. Accordingly, the present and amended claims should be found to be in condition for allowance.

If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to contact Judith A. Szepesi at (408) 720-8300.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES

IN THE SPECIFICATION

On page 8, line 2, please replace "32" with –34– in both instances.

Coaxial cable splitters permit more than one client to receive identical data by dividing the cable into two or more cable wires. Thus, from the point at which drop cable 10 enters home 12, drop cable 10 is split by splitter 22 into different cable wires 24, each cable wire 24 being routed to different rooms in home 12. Within living room 26 of Figure 1 is living room television (TV) 28 having set top box (STB) 30. Set top box 30 includes boxes that provide interactive television through high speed internet data access. Coupled between cable wire 24 and set top box 30 is cable LAN adapter 32. Cable wire 24 is also routed to office [32] 34. Within office [32] 34 is office personal computer (PC) 36 having an internet gateway. The internet gateway may be personal computer 36 having high speed access to the internet, where the high speed access may be achieved through the shown a cable modem 30, as well as other connection such as asymmetric digital subscriber loop (ADSL) modem, an integrated service digital network (ISDN), a T1 line, and a multimedia cable network system (MCNS) cable modem. Coupled between cable wire 24 and personal computer 36 is a second cable LAN adapter 32.

On page 16, line 17, please replace "94" with –98–.

At this point in the process, filtering may be necessary. As the signal travels within the coaxial cable network, reflection from low pass filter 18 may compensate for

signal attenuation due to splitters in the coaxial cable network, but may also cause a reflection mismatch between the signal and the reflected signal. Filters within Baseband section **90** filter out such reflected signals. From there, the signal is demodulated at demodulator **[94] 98** with the data then being decoded and corrected at FEC decoder **94**. The digital data is then sent to the second client through MAC & Client Interface section **80**.

IN THE CLAIMS

1. (Once Amended) A digital coaxial cable LAN for communicating data between clients of the cable LAN, the cable LAN comprising:

a plurality of clients;

a plurality of universal client interface adapters, one universal client interface adapter in communication with at least one client and in communication with at least one other universal client interface adapter;

at least one coaxial cable coupled between a pair of universal client interface adapters, the at least one coaxial cable having an operating frequency spectrum, the operating frequency spectrum having at least a first portion and a second portion, the second portion operating at a frequency greater than a signal cut-off frequency defined for conventional coaxial cable services; and [data having a data operating frequency that occupies the first portion of the operating frequency spectrum of the coaxial cable; and]

at least one carrier modulated digital signal having a signal operating frequency that occupies the second portion of the operating frequency spectrum of the coaxial cable, the at least one carrier modulated digital signal [controlled by at least one of the plurality of adapters and adapted to transport the data from one adapter to the at least one other adapter] transmitted in the coaxial cable coupled between the pair of universal client interface adapters.

2. (Once Amended) The cable LAN of claim 1 wherein at least one of the plurality of universal client interface adapters is integrated into a client of the cable LAN.

3. (Once Amended) The cable LAN of claim 1 wherein the at least one carrier modulated digital signal is an in-home signal and the coaxial cable is tapped off of a public cable network.

7. (Once Amended) The cable LAN of claim [6]1 wherein the at least one carrier modulated digital signal is an in-home signal, the cable LAN further comprising a low pass filter coupled upstream of the in-home signal to a public cable network, wherein the carrier modulated digital signal is generated downstream of the low pass filter.

9. (Once Amended) The cable LAN of claim [8]1 wherein the carrier modulated digital signal operating frequency is greater than approximately [1000] 950 MHz.

10. (Once Amended) The cable LAN of claim 9 wherein the carrier modulated digital signal operating frequency is between [1000] 950 MHz and 2000 MHz.

11. (Once Amended) The cable LAN of claim 10 wherein the carrier modulated digital signal operating frequency is approximately 1300 MHz.

12. (Once Amended) The cable LAN of claim 9 wherein the carrier modulated digital signal operating frequency has a bandwidth of at least 5 MHz.

25. (Once Amended) A method for communicating data between a first universal client interface adapter [coupled to] and a second universal client interface adapter coupled by a coaxial cable, the method comprising [the steps of]:

receiving digitized data in the first universal client interface adapter from a client[, the digitized data having a data operating frequency];

processing the digitized data within the first universal client interface adapter into a carrier modulated digital signal having a signal operating frequency that is greater than [the data operating frequency] a signal cut-off frequency defined for conventional coaxial cable services; and

communicating the carrier modulated digital signal from the first universal client interface adapter to the second universal client interface adapter through the coaxial cable.

26. (Once Amended) The method of claim 25, [the step of] wherein processing the digitized data [comprising the steps of] comprises:

modulating the digitized data into an analog wave form;

converting the modulated data into an analog signal having an intermediate frequency;

increasing the intermediate frequency to a frequency that is greater than the [data operating frequency] signal cut-off frequency; and

amplifying the power of the signal.